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AUTHOR Thompson, Bruce; Arnau, Randolph C.
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ABSTRACT

The Personal Preferences Self-Description Questionnaire (PPSDQ) (B. Thompson) was developed to measure personal preferences with regard to Jungian psychological types. Instruments in this area are among the most popular measures used in education and psychology; the measures are used in matching teaching and learning styles, in individual counseling and family therapy, in team building, and in research in these and other areas. The test-retest reliability, alpha, and divergent validity coefficients for scores on the four PPSDQ subscales were investigated with 143 college students (plus a few who took the test on only one occasion). Results suggest that PPSDQ scores are reasonably reliable and valid. An appendix contains item analysis statistics. (Contains 11 tables and 21 references.) (Author/SLD)

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STABILITY AND INTERNAL CONSISTENCY RELIABILITY OF *PERSONAL PREFERENCES SELF-DESCRIPTION QUESTIONNAIRE (PPSDQ)* SCORES

Bruce Thompson

Texas A&M University 77843-4225
and
Baylor College of Medicine

Randolph C. Arnau

Texas A&M University

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Paper presented at the annual meeting of the Mid-South Educational Research Association, New Orleans, November 4, 1998. The first author and related reprints may be accessed through Internet URL: **"http://acs.tamu.edu/~bbt6147/"**.

ABSTRACT

The Personal Preferences Self-Description Questionnaire (PPSDQ) was developed to measure personal preferences as regards Jungian psychological types. Instruments in this area are among the most popular measures used in education and psychology; the measures are used in matching teaching and learning styles, in individual counseling and family therapy, in team building, in career planning, and in research in these and other areas. The present study investigated test-retest reliability, alpha, and divergent validity coefficients for scores on the four PPSDQ scales. Results suggest that PPSDQ scores are reasonably reliable and valid.

Measures of psychological types are among the most frequently used measures (cf. Thompson & Ackerman, 1994) employed in education and other settings. For example, Jackson, Parker and Dipboye (1996) noted that one measure of Jungian types "is the most widely used personality instrument, with between 1.5 and 2 million persons completing it each year" (p. 99, emphasis added). More than 3 million copies of this measure were sold in 1993. As Yabroff (1990) noted, such measures have "brought Jung's typology to a high level of practical application" (p. 6). Personality type indicators are used in matching teaching and learning styles, in individual counseling and family therapy, in team building, in career planning, and in research in these and other areas.

Several factors seem to account for the popularity of measures of psychological type (McCaulley, 1990). First, unlike many personality measures, measures of type focus on *normal* variations in personality, and because by definition more people have normal as against abnormal personality, the measures may be useful with more people and in more situations than would be measures of psychopathology. Second, many people find that measures of type have enormous "face validity" for them, i.e., they understand the concepts implicit in the measures, tend to agree with and find appealing important aspects of type characterizations, and find the information to be useful, free of value judgments, and non-threatening.

One measure of type is the Personal Preferences Self-Description Questionnaire (PPSDQ), developed by the first author.

The PPSDQ has undergone an iterative sequence of item development and revision across a series of studies (cf. Arnau, Thompson, & Rosen, 1997; Kier, Melancon & Thompson, 1998; Kier & Thompson, 1997; Melancon & Thompson, 1994, 1996; Mittag, 1998; Thompson & Melancon, 1995, 1996a, 1996b, 1997; Thompson, Melancon & Kier, 1997, 1998; Thompson & Stone, 1994).

Method

Participants

Participants were 164 undergraduate students enrolled in a survey lower-level psychology course in a large southwestern university. Of these 164 students, 143 students took the PPSDQ twice, roughly two weeks apart. Sixteen (16) of the students completed the measure only on the first administration, yielding a total n_1 of 159 (143 + 16). Five (5) of the students completed the measure only on the second administration, yielding a total n_2 of 148 (143 + 5). Completion of the study was one choice in a cafeteria of options for receiving partial course credit for participating in the department's subject pool.

Instrumentation

We administered the 93-item version of the Personal Preferences Self-Description Questionnaire (PPSDQ). The PPSDQ consists of both word-pair items and sentence items posited to mark each of four psychological dimensions: Extraversion-Introversion (EI), Sensing-iNtuition (SN), Thinking-Feeling (TF), and Judging-Perceiving (JP). The PPSDQ word-pair items are presented as semantic differential scales with a "1" to "7" response format.

The response format for the sentence items involves Likert scales indicating strongest disagreement ("1") to strongest agreement ("7").

To evaluate divergent validity of PPSDQ scores, participants also completed a short form of the Marlowe-Crowne Social Desirability Scale (Reynolds, 1982). The same response scale was used with this measure.

Results

Table 1 presents in bold the test-retest reliability coefficients for the four PPSDQ scales. The table also presents interscale correlation coefficients both within and across times of administration.

INSERT TABLE 1 ABOUT HERE.

Table 2 presents the alpha coefficients (cf. Reinhardt, 1996) for the four scales. The coefficients are presented separately for each administration, and also for PPSDQ scores across the administrations when the participants were pooled into a single data set.

INSERT TABLE 2 ABOUT HERE.

Table 4 presents the divergent validity coefficients for the four PPSDQ scales. The PPSDQ scales were expected to be uncorrelated with the Marlowe-Crowne social desirability response set scores.

INSERT TABLE 3 ABOUT HERE.

Discussion

In evaluating the score reliability results presented here, it is imperative to bear in mind that it is a given set of scores--and not tests--that are reliable or unreliable, to varying degrees (cf. Thompson, 1994; Vacha-Haase, 1998). The Table 1 results suggest that the PPSDQ scores in the present sample had reasonable stability reliability. These coefficients ranged from .79 on the TF scale to .88 on the EI scale; three of the four coefficients were greater than .8.

As regards the internal consistency coefficients reported in Table 2, these coefficients ranged from .813 (TF, administration #1) to .894 (EI, administration #1). The coefficients are slightly smaller than those reported in previous PPSDQ studies. For example, in their analysis of data from 641 participants, Kier et al. (1998) reported alpha coefficients of .904, .877, .879, and .892, respectively, for scores on the four PPSDQ scales.

As reported in Table 3, scores on the PPSDQ scales had reasonable divergent validity, at least as regards social desirability response set. The largest r^2 involved a divergent validity coefficient of 4.6% for the EI scale on administration one; however, the same coefficient upon the second administration was only 0.6%.

In summary, the results are generally consistent with those reported in previous studies as regards internal consistency and

score divergent validity (Arnau, Thompson, & Rosen, 1997; Kier et al., 1998; Kier & Thompson, 1997; Melancon & Thompson, 1994, 1996; Mittag, 1998; Thompson & Melancon, 1995, 1996a, 1996b, 1997; Thompson, Melancon & Kier, 1997, 1998; Thompson & Stone, 1994). However, the present study extended these prior results by also evaluating test-retest score reliability. Stability reliability had not been investigated until the present study was undertaken. Again, the results suggest that PPSDQ scores may be useful in assessing normal variations in personality.

References

Arnau, R.C., Thompson, B., Rosen, D.H. (1997, April). Measurement of Jungian personality typology. Paper presented at the annual meeting of the Southwestern Psychological Association, Ft. Worth, TX. (ERIC Document Reproduction Service No. ED 414 335)

Jackson, S.L., Parker, C.P., & Dipboye, R.L. (1996). A comparison of competing models underlying responses to the Myers-Briggs Type Indicator. Journal of Career Assessment, 4, 99-115.

Kier, F.J., Melancon, J.G., & Thompson, B. (1998). Reliability and validity of scores on the *Personal Preferences Self-Description Questionnaire (PPSDQ)*. Educational and Psychological Measurement, 58, 612-622.

Kier, F., & Thompson, B. (1997, January). A new measure of Jungian psychological types for use in counseling. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, TX. (ERIC Document Reproduction Service No. ED 412 222)

McCaulley, M.H. (1990). The Myers-Briggs Type Indicator: A measure for individuals and groups. Measurement and Evaluation in Counseling and Development, 22, 181-195.

Melancon, J.G., & Thompson, B. (1994, November). An adjectival self-description checklist evaluating Myers-Briggs Type Indicator (MBTI) scores: Concurrent and construct score validity. Paper presented at the annual meeting of the Mid-South Educational Research Association, Nashville, TN. (ERIC Document Reproduction Service No. ED 379 339)

Melancon, J.G., & Thompson, B. (1996, April). Measurement of self-perceptions of Jungian psychological types. Paper presented at the annual meeting of the National Council on Measurement in Education, New York. (ERIC Document Reproduction Service No. ED 395 237)

Mittag, K. (1998, January). Measuring the Jungian personality types of high school students. Paper presented at the annual meeting of the Southwest Educational Research Association, Houston. (ERIC Document Reproduction Service No. ED 416 216)

Reinhardt, B. (1996). Factors affecting coefficient alpha: A mini Monte Carlo study. In B. Thompson (Ed.), Advances in social science methodology (Vol. 4, pp. 3-20). Greenwich, CT: JAI Press.

Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. Journal of Clinical Psychology, 38, 119-125.

Thompson, B. (1994). Guidelines for authors. Educational and Psychological Measurement, 54, 837-847.

Thompsor, B., & Ackerman, C. (1994). Review of the Myers-Briggs Type Indicator. In J. Kapes, M. Mastie, & E. Whitfield (Eds.), A counselor's guide to career assessment instruments (3rd ed., pp. 283-287). Alexandria, VA: American Counseling Association.

Thompson, B., & Melancon, J. (1995, January). Measurement integrity of scores from a self-description checklist evaluating Myers-Briggs Type Indicator (MBTI) types: A confirmatory factor analysis. Paper presented at the annual meeting of the

Southwest Educational Research Association, Dallas, TX. (ERIC Document Reproduction Service No. ED 380 487)

Thompson, B., & Melancon, J.G. (1996a, January). Measuring Jungian psychological types: Some confirmatory factor analyses. Paper presented at the annual meeting of the Southwest Educational Research Association, New Orleans, LA. (ERIC Document Reproduction Service No. ED 393 872)

Thompson, B., & Melancon, J. (1996b, November). Using item 'testlets'/'parcels' in confirmatory factor analysis: An example using the PPSDQ-78. Paper presented at the annual meeting of the Mid-South Educational Research Association, Tuscaloosa, AL. (ERIC Document Reproduction Service No. ED 404 349)

Thompson, B., & Melancon, J.G. (1997, January). Measurement of self-perceptions of Jungian psychological types. Paper presented at the annual meeting of the Southwest Educational Research Association, Austin, TX.

Thompson, B., Melancon, J.G., & Kier, F.J. (1997, April). Structure of PPSDQ-93 item 'parcels': Confirmatory and other analyses. Paper presented at the annual meeting of the Southwestern Psychological Association, Ft. Worth. (ERIC Document Reproduction Service No. ED 410 282)

Thompson, B., Melancon, J.G., & Kier, F. (1998, April). Faking/random response scales for the PPSDQ-93 measure of Jungian types. Paper presented at the annual meeting of the Southwestern Psychological Association, New Orleans. (ERIC

Document Reproduction Service No. ED forthcoming)

Thompson, B., & Stone, E. (1994, January). Concurrent validity of scores from an adjectival self-description checklist in relation to Myers-Briggs Type Indicator (MBTI) scores. Paper presented at the annual meeting of the Southwest Educational Research Association, San Antonio, TX. (ERIC Document Reproduction Service No. ED 367 706)

Vacha-Haase, T. (1998). Reliability generalization: Exploring variance in measurement error affecting score reliability across studies. Educational and Psychological Measurement, 58, 6-20.

Yabroff, W. (1990). The inner image: A resource for type development. Palo Alto, CA: Consulting Psychologists Press.

Table 1
Scale Correlation Coefficients Within and Across Times

	Variables							
Variables	EI1	SN1	TF1	JP1	EI2	SN2	TF2	JP2
EI1	1.0000	.0114	-.0704	.0514	**.8856**	-.1599	-.2533	-.0492
	(159)	(159)	(159)	(159)	(143)	(143)	(143)	(143)
	p=.	p=.887	p=.378	p=.520	p=.000	p=.056	p=.002	p=.560
SN1		1.0000	.3019	.5353	-.0819	**.8373**	.3568	.6065
		(159)	(159)	(159)	(143)	(143)	(143)	(143)
		p=.	p=.000	p=.000	p=.331	p=.000	p=.000	p=.000
TF1			1.0000	.2387	-.3162	.2959	**.7864**	.2719
			(159)	(159)	(143)	(143)	(143)	(143)
			p=.	p=.002	p=.000	p=.000	p=.000	p=.001
JP1				1.0000	-.0717	.5404	.2013	**.8666**
				(159)	(143)	(143)	(143)	(143)
				p=.	p=.394	p=.000	p=.016	p=.000
EI2					1.0000	-.1670	-.2911	-.0384
					(148)	(148)	(148)	(148)
					p=.	p=.043	p=.000	p=.643
SN2						1.0000	.4008	.6026
						(148)	(148)	(148)
						p=.	p=.000	p=.000
TF2							1.0000	.2789
							(148)	(148)
							p=.	p=.001
JP2								1.0000
								(148)
								p=.

Note. Time one scores have a "1" suffix; time two scores have a "2" suffix. Test-retest reliability coefficients are presented in **bold**.

Table 2
Alpha Coefficients Across Administrations

PPSDQ Scale	Data Set		
	Administration 1	Administration 2	Combined
EI	.894	.884	.890
SN	.830	.814	.824
TF	.825	.813	.820
JP	.849	.863	.855

Table 3
Divergent Validity Coefficients for PPSDQ Scales

	Administration 1		Administration 2	
Variable	r with SoclDesr	r^2	r with SoclDesr	r^2
EI	-0.21	4.6%	-0.08	0.6%
SN	0.14	1.9%	0.19	3.7%
TF	0.14	1.9%	0.16	2.4%
JP	0.03	0.1%	0.08	0.6%

APPENDIX A
Item Analysis Statistics

Table A.1
Item Analysis Statistics for the **EI** Scale at **Time 1**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
SOCIPRIV	66.0882	270.1144	.6972	.8845
FRIEDIST	67.3881	283.9639	.5165	.8898
PERSOSHY	66.5084	271.2073	.6771	.8851
APPRMYST	66.5527	281.9674	.4809	.8905
MIXERLON	66.2995	268.6456	.7007	.8842
CONGRECL	66.5084	286.6855	.3892	.8928
EXUBSERE	65.4454	284.8207	.4521	.8912
GREGTIMI	65.8818	279.7150	.5888	.8880
XQUIEEXP	66.2615	274.3122	.6564	.8859
XREFLACT	66.0941	285.2605	.4039	.8925
XINTREXT	66.0337	275.4965	.6236	.8868
XSTILLAN	66.4387	283.3901	.4537	.8912
XSOLIAMI	66.0240	284.5820	.4306	.8918
XSILEGAB	65.5527	277.4622	.5612	.8884
SHYPERSO	65.4384	275.9853	.4502	.8921
PRESWRIT	66.2615	288.6694	.2688	.8970
XGRPPROJ	65.7299	286.8648	.2920	.8966
XRELAXSO	66.0147	273.4942	.5786	.8877
XLIKETAL	66.5084	280.5207	.4398	.8918
XNEWPEOP	66.5719	276.3512	.5541	.8885
XTALKOTH	65.8058	275.2865	.5410	.8888

Table A.2
Item Analysis Statistics for the **SN** Scale at **Time 1**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
REALINTU	94.9167	217.1239	.3489	.8244
PRECIMAG	94.0082	205.8755	.5543	.8151
CONCEXPL	93.4961	213.1162	.4135	.8217
TRADCREA	94.2492	200.8363	.6092	.8117

DIRINGEN	94.0657	222.4752	.2320	.8286
PLANVISI	94.1100	211.5954	.4527	.8200
PRACTHEO	94.7682	215.3145	.4010	.8224
XINSISYS	93.8589	217.2421	.3318	.8251
XVARIREP	93.3568	217.0899	.3199	.8256
XINVENOR	94.3505	205.9377	.5316	.8160
XINQUCRI	93.6543	219.7695	.2880	.8267
XDIVERCO	93.9694	213.3184	.3699	.8236
XDIVEPRE	93.9961	215.4097	.3751	.8233
XCONCREA	95.1543	219.1327	.2854	.8269
DIFFPERS	93.2809	217.4014	.3163	.8258
USEINTUI	93.0404	225.0212	.1715	.8306
SEEPATTR	93.3590	221.6128	.2289	.8291
NEWSKILL	93.9011	218.5357	.2837	.8272
SEEMEANG	93.2429	216.9958	.3711	.8236
INVENTIV	93.9581	209.6835	.4714	.8190
CREATNEW	93.6543	210.1786	.5236	.8173
XPREFFAC	94.9201	210.4977	.3481	.8256
XMECHANI	94.0327	208.1735	.4385	.8204

Table A.3
Item Analysis Statistics for the **TF** Scale at **Time 1**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
DISPEMOT	102.8811	229.0995	.4202	.8169
JUSTHARM	104.2425	234.7776	.2725	.8228
XOPENEVA	103.3241	227.6556	.4580	.8154
IMPEPERS	102.8874	233.0502	.3238	.8207
PRINPEOP	103.7582	234.2932	.2729	.8229
EVALNONJ	104.0963	236.6098	.1794	.8278
FACTCOMP	103.5709	218.0901	.6186	.8076
LOGHUMAN	104.0773	222.7934	.5035	.8129
SKEPTRUS	103.6849	226.0706	.4310	.8162
STRIFORG	102.9760	225.6107	.5222	.8130
XEMPALOG	104.6904	230.6708	.3496	.8197
XCARICOO	102.7545	228.5784	.4652	.8155
XRECEPSE	103.7545	233.8276	.2544	.8240
XSYMPFAI	104.4127	234.7979	.2999	.8216
XGULLSUS	104.4001	230.1256	.3210	.8212
XKINDANA	103.0769	225.9241	.4792	.8144
XFEELTHI	103.8747	224.0034	.4886	.8136
XTENDRAT	103.6596	225.5406	.5046	.8135
XACCEDIS	103.1913	233.7446	.2849	.8224

XLIGHPRU	103.5029	227.7193	.4323	.8163
AVOIDCON	104.0583	234.2076	.2062	.8273
EMOTIONL	103.3431	228.6648	.3855	.8182
SENSITIV	104.2925	234.1858	.2516	.8241
XBUSINES	103.8874	236.1330	.2149	.8255

Table A.4
Item Analysis Statistics for the **JP** Scale at **Time 1**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
RESPADAP	89.1577	292.6131	.3415	.8454
PROMFREE	88.1767	275.5978	.5730	.8367
TIMERELA	88.0944	285.8107	.4549	.8416
XFLEXORG	88.4805	282.0830	.5092	.8395
XRANDSEQ	88.4733	290.8617	.3704	.8445
XIMPUDEL	88.1957	293.4347	.3635	.8447
XIMPETAS	88.8982	291.1967	.4685	.8420
UNSCHEDU	88.9805	286.1641	.4071	.8432
LASTMINU	88.8349	286.7429	.3479	.8459
UNEXPECT	88.3349	284.9245	.4510	.8416
NOORGANI	87.7590	288.0453	.4060	.8432
GOWIFLOW	88.2653	289.3629	.3824	.8441
LASTMINT	88.7020	284.5410	.4136	.8430
FORMOMEN	88.3286	283.8510	.5391	.8390
ORDERIRR	89.8666	288.3870	.4307	.8425
XTHINKAH	89.4552	291.5269	.3725	.8444
XIMPULSI	88.2780	296.9736	.2338	.8491
XSTRUTIM	87.9587	283.7210	.5205	.8394
XENJLIST	88.9299	285.0011	.3604	.8455
XHATERUS	89.1197	282.6996	.5047	.8397
XROUCOMF	88.9742	287.9690	.4665	.8415
XLCLOSUR	88.8184	297.0856	.2687	.8476
XBEONTIM	89.8856	300.6291	.1445	.8528
XCOMMITM	89.6339	305.8587	.0840	.8529
XPLANAHE	89.1706	286.5782	.5020	.8404

Table A.5
Item Analysis Statistics for the **EI** Scale at **Time 2**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
SOCIPRIV	68.3220	252.3074	.6567	.8734
FRIEDIST	69.3068	266.1585	.5087	.8786
PERSOSHY	68.5095	258.5006	.6168	.8752
APPRMYST	68.6987	269.6744	.3523	.8830
MIXERLON	68.5286	260.1527	.5764	.8764
CONGRECL	68.6852	268.6923	.4230	.8808
EXUBSERE	67.8068	277.2651	.2092	.8867
GREGTIMI	68.0865	270.2066	.3912	.8817
XQUIEEXP	68.1852	253.8977	.6647	.8734
XREFLACT	68.1822	267.5322	.4153	.8811
XINTREXT	68.2528	257.5422	.6643	.8740
XSTILLAN	68.4622	269.9444	.4032	.8813
XSOLIAMI	68.0938	261.4703	.5205	.8780
XSILEGAB	67.7122	263.6964	.5183	.8782
SHYPERSO	67.6375	256.0497	.4996	.8790
PRESWRIT	68.2866	270.4887	.2776	.8862
XGRPPROJ	67.9487	266.1710	.3956	.8819
XRELAXSO	68.2460	257.5724	.5680	.8764
XLIKETAL	68.5974	266.6163	.3922	.8820
XNEWPEOP	68.6784	258.1763	.6066	.8754
XTALKOTH	68.1526	258.5063	.5644	.8766

Table A.6
Item Analysis Statistics for the **SN** Scale at **Time 2**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
REALINTU	92.0445	191.3983	.3554	.8077
PRECIMAG	91.3566	186.6809	.4083	.8050
CONCEXPL	90.9073	191.7321	.2952	.8105
TRADCREA	91.5801	179.3707	.5792	.7960
DIRINGEN	91.3098	187.8903	.4739	.8029
PLANVISI	91.1332	185.0096	.4561	.8027
PRACTHEO	91.6949	188.2299	.4045	.8054

XINSISYS	90.9652	188.2240	.4130	.8050
XVARIREP	90.5666	186.3316	.4717	.8024
XINVENOR	91.3239	187.7840	.3894	.8060
XINQUCRI	90.8436	195.8178	.2111	.8139
XDIVERCO	91.1274	184.1359	.4824	.8014
XDIVEPRE	91.0936	194.3373	.2376	.8130
XCONCREA	91.9449	195.4415	.2254	.8132
DIFFPERS	90.3639	189.8389	.3248	.8092
USEINTUI	90.4449	190.2492	.3819	.8066
SEEPATTR	90.8571	189.0877	.3518	.8078
NEWSKILL	91.0057	198.8047	.1117	.8188
SEEMEANG	90.4449	193.7507	.2483	.8125
INVENTIV	91.0666	186.5442	.4440	.8035
CREATNEW	90.9049	184.8941	.4763	.8018
XPREFFAC	91.8631	187.9328	.2944	.8118
XMECHANI	91.0811	190.7516	.2851	.8113

Table A.7
Item Analysis Statistics for the **TF** Scale at **Time 2**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
DISPEMOT	101.0765	191.6970	.4942	.8000
JUSTHARM	102.1846	194.0361	.3667	.8055
XOPENEVA	101.3400	191.9111	.4778	.8006
IMPEPERS	100.9211	199.5675	.2847	.8090
PRINPEOP	101.6250	193.0698	.4276	.8028
EVALNONJ	101.9408	193.0170	.3595	.8059
FACTCOMP	101.6136	187.6064	.5056	.7984
LOGHUMAN	102.0764	194.9329	.3252	.8076
SKEPTRUS	101.6238	188.1797	.4948	.7990
STRIFORG	101.2727	189.2241	.5199	.7983
XEMPALOG	102.3768	198.6791	.3183	.8077
XCARICOO	100.5532	199.4631	.3059	.8082
XRECEPSE	101.5495	200.7362	.2371	.8111
XSYMPFAI	102.3670	202.3482	.2215	.8114
XGULLSUS	101.9481	195.3398	.3471	.8064
XKINDANA	101.0022	192.7289	.4668	.8013
XFEELTHI	101.6643	194.8195	.3579	.8059
XTENDRAT	101.5697	194.6750	.3785	.8050
XACCEDIS	101.0427	193.6806	.3657	.8056
XLIGHPRU	101.1981	195.9186	.3443	.8065
AVOIDCON	101.9339	204.0215	.1018	.8192
EMOTIONL	101.2589	196.5346	.3228	.8075

SENSITIV	102.0708	203.9333	.1363	.8158
XBUSINES	101.8400	196.2495	.3188	.8078

Table A.8
Item Analysis Statistics for the **JP** Scale at **Time 2**

	Item Analysis Statistics			
Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item Discrimination	α if Item Deleted
RESPADAP	89.9599	295.6561	.2962	.8618
PROMFREE	89.1007	285.9107	.4264	.8581
TIMERELA	89.0545	290.5567	.3589	.8602
XFLEXORG	89.0747	280.4841	.6005	.8526
XRANDSEQ	88.9870	286.2147	.4687	.8567
XIMPUDEL	88.7551	290.9165	.4610	.8574
XIMPETAS	89.4828	292.8720	.4178	.8585
UNSCHEDU	89.5306	286.0970	.4833	.8563
LASTMINU	89.4937	282.9297	.4372	.8578
UNEXPECT	89.0072	285.2412	.5473	.8547
NOORGANI	88.7468	288.6583	.3839	.8594
GOWIFLOW	89.1964	291.9669	.3562	.8602
LASTMINT	89.2370	287.3042	.4030	.8588
FORMOMEN	89.1618	286.2141	.4723	.8566
ORDERIRR	90.3878	291.3783	.4258	.8582
XTHINKAH	89.9126	299.4599	.1969	.8650
XIMPULSI	89.2370	284.5040	.5182	.8552
XSTRUTIM	88.7505	288.7893	.4466	.8575
XENJLIST	89.5140	282.3498	.4218	.8586
XHATERUS	89.4397	288.0499	.4146	.8584
XROUCOMF	89.6897	282.0064	.6325	.8523
XLCLOSUR	89.5326	305.3581	.1158	.8660
XBEONTIM	90.3653	288.5078	.3869	.8593
XCOMMITM	90.1972	298.6040	.2390	.8634
XPLANAHE	89.7643	282.6077	.5565	.8540